CLAIMS

1. A method of transporting voice traffic and audio multi-tone signalling information representing user dialled digits from a connection based network to a connectionless network, the method comprising notch filtering a plurality of signal samples, determining from said notch filtering the presence or absence of an audio multi-tone signal, in the absence of an audio multi-tone signal, compressing and packetising said voice traffic for transport over the connectionless network, and, in the presence of an audio multi-tone signal, decoding that signal to corresponding digit information and transporting that digit information over the connectionless network.

2. A method of transporting voice traffic and audio tone signalling information representing user dialled digits from a time division multiplex network to a connectionless network, the method comprising compressing and packetising said voice traffic at said interface in the form of compressed speech, sampling said TDM voice traffic with first and second sets of adaptive notch filters so as to provide an indication of presence or absence of pairs of audio tone signals representing call number information in said voice traffic, and, when the presence of a said pair of tone signals is indicated, decoding that pair of tone signals to a corresponding digit value, and transmitting that digit value across the connectionless network.

3. A method as claimed in claim 2, wherein said voice traffic is transported from the connectionless network to a further time division multiplex network, and wherein said transmitted digit value is re-encoded as a corresponding pair of audio tone signals on egress from the connectionless network.

4. A method as claimed in claim 3, wherein a power level of a said pair audio tone signals is measured, wherein said power level measurement is transmitted together with the digit value, and wherein, subsequent to transport over the connectionless network, said digit value is re-encoded as a DTMF signal at said power level.

5. A method as claimed in claim 4, wherein each of said adaptive notch filters is arranged as a single frequency noise canceller with first and second adaptive weights.

6. A method as claimed in claim 5, wherein a said pair of tone signals is detected by determining the frequency and power level of each signal of the pair, and comparing the frequency and power level with predetermined reference values.

7. A method as claimed in claim 6, wherein a difference in power levels of the signals of the pair is determined.

8. A method as claimed in claim 7, wherein said connectionless network is an asynchronous transfer mode (ATM) network.

9. A method as claimed in claim 8, wherein said time division multiplex network and said connectionless network are interfaced by an ATM switch.

10. Software in machine readable form on a storage medium and arranged to perform the method of claim 1.

11. A signalling tone detector for use in a communications network for the detection of dual frequency multi-tone (DTMF) pairs of signal tones representing user dialled digits in a time division multiplex (TDM) signal, the detector comprising; first and second arrays of adaptive notch filters, each said notch filter being adapted to respond to a respective signal tone by the generation of a corresponding output signal, and logic means for identifying from a combination of output signals from the adaptive notch filters the presence or absence of a pair of signal tones and, when the presence of a pair of signal tones has been identified, for decoding that pair of tones to corresponding digit information.

12. A signalling tone detector as claimed in claim 11, wherein each of said adaptive notch filters is arranged as a single frequency noise canceller with first and second adaptive weights.

13. An ATM switch incorporating a tone detector as claimed in claim 11.

14. An arrangement for transporting voice traffic and audio tone signalling information from a time division multiplex network to a connectionless

network, the arrangement comprising speech encoding and compression means for compressing and packetising said voice traffic at said, a plurality of adaptive notch filters for sampling said TDM voice traffic so as to provide an indication of presence or absence of audio tone signal in said voice traffic, and logic means for decoding a tone signal to a corresponding digit value when said tone signal has been detected, and means for transporting that digit value across the connectionless network.

15. An arrangement as claimed in claim 14, wherein said voice traffic is transported from the connectionless network to a further time division multiplex network, and wherein said transmitted digit value is re-encoded as a corresponding pair of audio tone signals on egress from the connectionless network.

16. An arrangement as claimed in claim 15, and including power level measurement means for determining a power level of a said pair audio tone signals.

17. An arrangement as claimed in claim 16, wherein said logic means is arranged to detect a tone signal pair by comparing the frequency and power level of each signal of the pair with predetermined reference values.

18. An arrangement as claimed in claim 17, and including means for transmitting said power level measurement together with the digit value corresponding to the pair of audio tone signals over the connectionless network.

19. An arrangement as claimed in claim 18, wherein each of said adaptive notch filters is arranged as a single frequency noise canceller with first and second adaptive weights.

20. A communications network arrangement comprising a time division multiplex (TDM) network in which narrow band traffic is transported in frames, and a connectionless network in which said narrow band traffic is transported in a compressed form in cells or packets, wherein, within the TDM network, signalling of user dialled digit information is performed by the transmission of dual frequency multi-tone (DTMF) pairs of signal tones, and wherein a boundary between the TDM and connectionless networks

incorporates signalling tone detection means comprising a plurality of adaptive notch filters for sampling said TDM voice traffic so as to provide an indication of presence or absence of a pair of audio tone signals in said voice traffic, and logic means for decoding a pair of tone signals to a corresponding digit value when said tone signal pair has been detected, and means for transporting that digit value across the connectionless network.

21. An arrangement as claimed in claim 20, wherein said voice traffic is transported from the connectionless network to a further time division multiplex network, and wherein said transmitted digit value is re-encoded as a corresponding pair of audio tone signals on egress from the connectionless network.

22. An arrangement as claimed in claim 21, and including power level measurement means for determining a power level of a said pair audio tone signals.

23. An arrangement as claimed in claim 22, wherein said logic means is arranged to detect a tone signal pair by comparing the frequency and power level of each signal of the pair with predetermined reference values.

24. An arrangement as claimed in claim 23, and including means for transmitting said power level measurement together with the digit value corresponding to the pair of audio tone signals over the connectionless network.

25. An arrangement as claimed in claim 24, wherein each of said adaptive notch filters is arranged as a single frequency noise canceller with first and second adaptive weights.